Questions and Answers
Network Upgrade
RFP# 15-10-01

Q.   Are any other devises on the network?
A.   **Just data and phone. Data is all inclusive, videos, client servers, etc.**

Q.   Are there any analog circuits?
A.   **Ever site has pots line.**

Q.   Are the trunks local?
A.   **Yes they are local.**

Q.   Where is PRI located?
A.   **PRI are located at the municipal and public works sites. Avaya signaling servers are at the 4 following sites; Public works, Police Annex, Courthouse, and Municipal. It is TDM over SONET.**

Q.   Is each site DS0 or are they run as PRI into local equipment?
A.   **We have DS1 mapped.**

Q.   Is the Higher Ed. site part of the proposal?
A.   **No the higher Ed. site is not a part of this proposal.**

Q.   The RFP includes replacement of 8000 switches. Are there requirements for port numbers, size of Gs?
A.   **48 ports of 10Gs at a minimum.**

Q.   Do you have inventory of switches you can supply?
A.   **Please see List of Locations Document (attached separately).**

Q.   Do you have any information on PoE requirements?
A.   **All switches are PoEs. The City would like to have all ports on the switches be PoE capable. The City would also like to have 30 Watts per port.**

Q.   Do you anticipate having enough power and UPS support in closets?
A.   **The City does anticipate having sufficient power and UPS support.**

Q.   Do any sites require hardened equipment or is there proper HVACs?
A.   **They all have proper HVACs.**

Q.   Is power 110 at all sites or do some have 220?
A.   **Most sites are 110V . Municipal & Main Library have 220V ALSO.**

Q.   Are there some closets that don't have PoE?
A.   **All closets have PoE**

Q.   Is OSPF prevalent in your network?
A.   **Yes. Some sites have RIP but we are trying to remove that.**

Q.   Do you have any sites with DC power or is it all AC?
A.   **All sites have AC**

Q.   Is there ample rack space at each site?
A.   **Please refer to List of Locations Document (Attached separately).**

Q.   In the municipal building, there is switch clustering technology. Is that the design foreseen going forward?
A.   **Yes. We would like to keep it that way. Each closet in Municipal has 2 trunks. There are also two backbone switches.**

Q.   Are you looking to replace the Avaya switches in the data center?
A.   **The City would like to see options.**

Q.   In the data center, are you looking to use PoE or non PoE?
A.   **Everything is PoE.**

Q.   Are you upgrading the phone system in the near future? If so is there a time frame?
A.   **Yes we are looking to replace the phone system after the network is upgraded & established.**

Q.   Are there particulars that are really pushing the upgrade?
A.   **There isn't anything in terms of Gs issues that is really pushing it. We are trying to provide greater service for all city departments. We are also looking to better our backup capabilities.**

Q.   The existing fiber plant is currently only partially being used. Do you have any concerns?
A.   **We have 4 fibers but are currently using 2. No concerns about using the second pair of fibers however Fiber Characterization can be included as part of the RFP Response.**

Q.   Is any of the Avaya equipment currently under warranty or support?
A.   **Everything is currently under support.**

Q.   Can you talk about support for the new network?
A.   **Traditionally, the network is maintained by the City with vendor support. It is in our best interest now to look at certain ways we can supplement this. We would like to have staff trained and have 24 hour Vendor contact. We**

are open to what vendors can provide in terms of support. The City would like to have support on site within 1 hour of issues. The City would like to have a system in the data center that will warn of potential issues. Currently, the City is using Solar Wings for this. The City is open to ideas regarding management both in house and 3rd party.

Q. How many people do you foresee needing to be trained?
A. **Approximately 3 people.**

Q. In terms of TDM, do you foresee issues with the current set up when transitioning to VOIP?
A. **The goal is to eliminate TDM.**

Q. What is TDM being used for currently?
A. **TDM is currently only being used for voice.**

Q. Are you pursuing any network designs within level 3?
A. **No.**

Q. Are you open to viewing other designs for the network?
A. **No.**

Q. Will there be a vetting process the vendors can articulate?
A. **Criteria of evaluation are located in Section 7 of the proposal.**

Q. Can you share your funding?
A. **The City typically does not share its budget.**

Q. Is there an interest in OPEX as opposed to a CAPEX model?
A. **Providing options on both would be helpful with options for support on an annual basis.**

Q. Does the City extend VLAN?
A. **City currently extends VLAN site to site.**

Q. Do you want to be able to support layer 2 and layer 3 across the entire network?
A. **Yes.**

Q. What is the City's current recovery time?
A. **Current recovery time is 50 milliseconds.**

Q. Are there any SAN or backup windows we need to consider in terms of scope?
A. **Please refer to List of Locations Document (Attached Separately).**

Q.   What preference do you have for implementation? How do you want your team involved?

A.   **City is seeking a turn-key solution. During the process, the City would like to have staff do on-the-job training with equipment and systems.**

Q.   Are you looking to take all sites to the same uplink of 10G?

A.   **Yes, every site should be a minimum of 10G capable. The City wants to maximize options at the sites.**

Q.   Can you provide a list of rack space available at each site?

A.   **Please refer to List of Locations Document (Attached Separately).**

Q.   Do you anticipate any other sites that will need upgrades sooner?

A.   **In the foreseeable future, Public Works will potentially need upgrading.**

Q.   Who is the current vendor for police cameras?

A.   **WatchGuard provides video cameras for the vehicles.**

Q.   Can you provide the number of switches you are looking to replace at each site from a layer 3 perspective?

A.   **Please refer to List of Locations (Attached Separately).**

Q.   We understand that one site is 6.5-7 miles just outside LR range, which site is that?

A.   **The Police Academy is between 6.5 to 7 miles to both the Western Virginia Water Authority (WVWA) Field Operation Center & Public Works.**

Q.   Can you verify that the scope of this proposal is replacing the SONET ring, the building connectivity, and POE closet switches for telephony connectivity?

A.   **The scope of this RFP is to replace SONET Ring- Optera 3500 and the switch, 5530, 5698, Passport 8006(at Police Annex site), connected to it. Except Municipal which also includes two Avaya 8010s.**
   RFP Replacement must work with other switches currently connected to the 5530 or 5698 either stacked together or trunked to.

Q.   One of our employees is married to a police officer employed by City of Roanoke. By law we cannot give the home address of an employee. How should we proceed?

A.   **Please identify any potential conflicts of interest in your response. Identify the name of the individuals involved and their relationship. Please also identify if the firm employee will be directly involved in the City's Network Upgrade.**

Q.	The Warranty says 1 hour onsite. Is that 1 hour and a body is there or is that 1 hour with part?

**A.	The City would like an engineer on site in an hour for resolution without part.**

Q.	Under Documentation, on page 14, Owner's manuals – Is an electronic copy only OK, or would you like 1 paper copy of owner's manuals? Is this only to be supplied upon award/contract by successful vendor?

**A.	Electronic copy is acceptable. To be supplied by the successful vendor upon award. However, sufficient documentation must be provided by all to evaluate all options in the proposal.**

Q.	Would you please provide an Inventory list of equipment, and the Location of that equipment?

**A.	Please refer to RFP Attachment A. Also refer to locations document attached separately.**

Q.	Will you provide a list of line cards being replaced in the existing chassis switches?

**A.	The only Ethernet chassis switches are Avaya 8010 in the Municipal (see RFP Attachment D) and Avaya 8006 in the Police Annex which has two 8895SF & one 8634XGRS. Optera 3500 chassis line cards are listed on Page 7 of the RFP document and in Attachment A.**

Q.	Are you using AC power or are you using DC in each location?

**A.	It is AC Power at every site. No DC Power is used.**

Q.	If any DC Power connected, do you want to continue using DC power or would it be ok to propose AC?

**A.	No DC Power is used.**

Q.	Can you confirm 2 post or 4 post racks in buildings? If a mix can you provide the inventory list with location?

**A.	Please refer to Locations document attached separately.**

Q.	Is there sufficient AC power where fiber is terminated (demark of Sonet Network)?

**A.	Yes, there will be sufficient AC power.**

Q.	Will there be Multimode or Single Mode fiber from Sonet demark to MDF/IDF closets? Can you provide the closet layout per building with distances and fiber specifications?

**A.	Sites with more than one closet, (Municipal, Main Library, Fire/EMS, Water Pollution Control, Public Works, Civic Center, Police Annex, Court House), have Multimode fiber either 62.5 or 50 micron to the closets. Closets are not in the scope of the RFP however the equipment in the RFP response**

must work with the equipment currently in use, they are Avaya 5520, 5698, 5650, 4850, or 4826, either stacked together or fiber/copper trunked to.

Q.   What connector is used on the fiber distribution panel ([ST/SMA/SC/MIC/LC] for scoping patch cables)?
A.   **SC and LC are used.**

Q.   What port count is in the 8010's and 8006, as well as line cards (how many ports are in use and needed in replacement switches)?
A.   **See List of Locations (Separate Attachment) for information on the Municipal and Police Annex sites. Municipal Avaya 8010 replacement will need to have a minimum 48 1/10G(ports capable of either 1G or 10G) to connect floors with fiber and Storage Area Network Servers with fiber or copper.**

Q.   Can you confirm that there is a minimum of 10 Rack units available in each rack? If not is there a minimum of 5 Rack units?
A.   **See List of Locations Document (attached separately) on rack space.**

Q.   In the pre proposal meeting there was a discussion at length about POE switches to be upgraded within the sites. Can you confirm that you want this proposal to include replacing the POE Avaya switches providing POE and connectivity to the phones?
A.   **Avaya 5530 is not a PoE switch. 5520, 5698, 5650, 4850 & 4826 are. Since only 5530 or 5698 are connected to Optera 3500, the Avaya 5698 is the only PoE device that will be replaced providing its replacement will work with switches connected to 5530 & 5698.**

Q.   Can you provide a list/details of what POE switches will be replaced?
A.   **Please see List of Locations Document (attached separately).**

Q.   In the pre bid meeting you said you want 48 port POE switches providing POE+ to all 48 ports supporting 30w per port. Can you confirm that all switches are to be 48 port switches and no 24 port switches?
A.   **Currently Avaya either 5530 or 5698 is connected to the Optera 3500 and 5698 and has 96 PoE ports with 6 shared 1000BaseT/SFP ports.**

Q.   Can you confirm the request is for the user ports to be 1G not 10G?
A.   **Yes, user ports i.e. PC or Trunk to the closet, is 1G.**

Q.   What Ethernet devices would you like replaced at each site?
A.   **The scope of this RFP is to replace SONET Ring- Optera 3500 and the switch, 5530, 5698, Passport 8006(at Police Annex site), connected to it. Except Municipal which also includes two Avaya 8010s. RFP Replacement must work with other switches currently connected to the 5530 or 5698 either stacked together or trunked to.**

Sites with more than one closet, (Municipal, Main Library, Fire/EMS, Water Pollution Control, Public Works, Civic Center, Police Annex, Court House), have Multimode fiber either 62.5 or 50 micron to the closets. Closets are not in the scope of the RFP however the equipment in the RFP response must work with the equipment currently in use, they are Avaya 5520, 5698, 5650, 4850, or 4826, either stacked together or fiber/copper trunked to.

Q.   Please confirm you want 10G uplinks on <u>all</u> switches?
A.   **The City would like a Minimum 10G.**

Q.   How many ports minimum of 10G per switch?
A.   **The City would like 24 Ports or more.**

Q.   Are there any requirements for encryption of any data traffic including the police department traffic? CGIS Requirements?
A.   **No encryption at this time. There is CGIS requirement depend on interpretation.**

Q.   From a migration standpoint, would the city consider migrating the NetApp SNAP Mirror and backup between the Municipal Building and Water Authority Coulter Building to a new Metro Ring? This could allow a new system to be brought up on the second fiber pair while leaving the legacy TDM system in place. This would reduce cost and eliminate spending to supporting a technology that is going away within a few years.
A.   **The new system will need to be brought up on the second pair of fiber in parallel with the existing system for testing etc. When the new system is ready, everything including the current phone system will be moved over and free up the first pair of fiber.**

Q.   How exactly is the second fiber pair utilized today? The RFP refers to a link between the Municipal Building and the Library and then a second link between the Municipal Building and the Water Authority Coulter Building. Are these separate links going different direction around the ring as point to point connections? Are these to connections shared via Ethernet switching going from Municipal Building - Library - Water Authority? Or are these two links provided over a separate shared Ethernet ring that utilizes the second fiber pair going around both sides of the ring?
A.   **The second fiber pair is not in use other than among Municipal, Main Library and Water Authority Coulter Building which are Ethernet switch connections as a work around to slowness issues among those sites' backup process.**

Q.   What locations have a GPS clock for timing on the SONET network?
A.   **No locations have GPS clock for timing.**

Q. In the drawing on page 17 of the RFP document, it appears there are two OC-48 rings turned up and the RFP describes two RPR in use on the ring. If this is correct do both OC-48s have TDM circuits mapped to them? If they are two separate OC-48s, are they using DWDM optics directly out of the Optera 3500 shelf? If they are using DWDM optic in the Opera shelf, what wavelength is being used?

A. **DS1 is mapped from each site to the Meridian 81C in Municipal and sites in between are configured as pass-through. Municipal, Public Works, Court House and Police Annex sites have two Avaya Signaling Servers(CS1K) connected to the LAN. The internal calls among those 4 sites will go through SIP Trunks and T1s are the backup. Calls from those 4 sites to other sites without CS1K will go through DS1 mapped in SONET. There are No DWDM in use.**

Q. Can you please provide more information regarding the legacy phone system? Specifically:

Q1. How many DS1s are dropped at each site?

A. **One in each site except Social Services & Water Authority(Coulter Building) which have two.**

Q2. Are they dropped as PRIs/DS1 from the Optera shelf into a CSU/DSU via a RJ45 connector which then connects into the PBX-Avaya Option 11C?

A. **Yes.**

Q3. How many PRIs are being dropped to the Meridian 81C?

A. **5 PRIs at the Municipal where Meridian 81C reside. (See RFP Attachment A)**

Q4. What is the make and model of the device at the Municipal building that is multiplexing the OC3 out to DS1s/PRIs going to the Meridian 81C?

A. **DS1 Service Module(DSM) NTN401DA.**

Q. When evaluating the replacements of the Avaya site switches, how many 48 and or 24 port site switches are needed at each site?

A. **A Minimum 24 OF 1/10G ports.**

Q. Are there any SAN or backup windows we need to consider in terms of scope?

A. **Currently backup & snap mirror jobs' schedule is staggered and takes about 12 hours. RFP response must support extending VLAN across sites.**

Q. Are any of the remote PBXs' migrating to VoIP instead of POTS?

A. **PBXs will be migrated to VoIP down the road once network upgrade is done.**

Q.   How many voice trunks per location provided by each DS1?
      Q1.   At each of the remote locations (12), is the DS1 interface support voice?
      A.   **Yes.**
      Q2.   If so, is it 24 X DS0?
      A.   **Yes.**
      Q3.   Are there other uses for the DS1 interfaces on the Optera?
      A.   **No.**
      Q4.   What is the bandwidth between CSU and the PBX (PSC)?
      A.   **1.5Mbps**
      Q5.   Will all voice be transported via TDM moving forward?
      A.   **No.**
      Q6.   Anything moving to IP?
      A.   **Most will move to IP.**

Q.   What type of service is provided at each location by the Ethernet cards? Total of
      4 GigE ports?
      Q1.   Layer 2 Ethernet
      A.   **Yes.**
      Q2.   Layer 2 Ethernet with VLAS(s)
      A.   **Yes.**
      Q3.   Are these interfaces trunk ports with multiple VLANs?
      A.   **Yes.**
      Q4.   Layer 3 IP?
      A.   **Yes.**

Q.   What Layer 3 protocols are configured and operational on the 8100 switches?
A.   OSPF, RIP, ICMP

Q.   What switches are running Layer 3 routing?
A.   5530, 5698, 8006, 8100

Q.   What switches are Layer 2 only?
A.   5520, 4850 switches in the closet.

Q.   Do you need multiple discrete Ethernet interfaces and services at each location?
      How many?
A.   Minimum 24 1/10G ports (support either 1G or 10G).

Q.   Has Level 3 built an actual ring network?
A.   Yes.

Q.   Does Level 3 provide individual fiber runs from a central L3 CO or Point of
      Presence?
A.   No.

Q.   Can you provide a map of the actual fiber cable plant?
A.   **Fiber ring is Level 3's. RFP Attachment A has City's sites on the fiber.**

Q.   How will you support both networks at the same time during test and cutover?
       Will Level 3 provide additional fiber?
A.   **The City is using one pair of the two available pairs. RFP replacement will
       be on the second pair of fiber.**

Q.   Can you tell us if Roanoke City has any compliance requirements for data
       encryption as it relates to Criminal Justice Information Services (CJIS)?
A.   **CJISD-ITS-DOC-08140-5.3, CJIS Security Policy talks about encryption in
       different sections. Vendor is welcome to refer to section 5.10.1.2, 5.10.2 of
       the Policy on encryption and include encryption in the design of the RFP
       response as an option. Currently there is no encryption.**